KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

VP-434
Component/UXGA HDMI Scaler

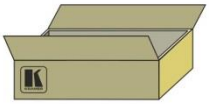
P/N: 2900-000346 Rev 7

VP-434 Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to http://www.kramerelectronics.com/support/product_downloads.asp to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

- ☑ **VP-434** Component/ UXGA HDMI Scaler
- ☑ 1 Power supply (12V DC)
- ☑ 4 Rubber feet
- ☑ 1 Quick Start sheet
- ☑ Kramer RC-IR3 Infrared Remote Control Transmitter with batteries and user manual



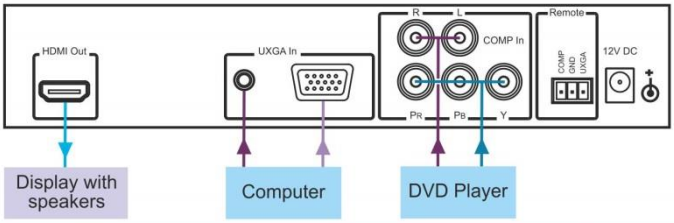
Save the original box and packaging materials in case you need to return your **VP-434** for service.

Step 2: Install the VP-434

Attach the rubber feet and place on a table or mount the **VP-434** in a rack (using an optional RK-1 rack mount).

Step 3: Connect the inputs and outputs

Always switch off the power on each device before connecting it to your **VP-434**.



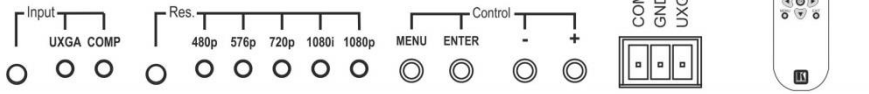
Always use Kramer high-performance cables for connecting AV equipment to the **VP-434**.

Step 4: Connect the power

Connect the 12V DC power adapter to the **VP-434** and plug the adapter into the mains electricity.

Step 5: Operate the Machine

Operate the machine using the front panel buttons, the remote contacts or the remote control.



Choose the input source | Choose the output resolution | Use the OSD | Use the remote contacts | Use the remote control

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront video, audio, presentation, and broadcasting professionals on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 11 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Products.

Congratulations on purchasing your Kramer **VP-434** *Component/UXGA HDMI Scaler*, which is ideal for the following typical applications:

- Projection systems in conference rooms, boardrooms, auditoriums, hotels and churches, production studios, rental and staging
- Home theater up-scaling

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

Go to http://www.kramerelectronics.com/support/product_downloads.asp to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Do not secure the cables in tight bundles or roll the slack into tight coils
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer **VP-434** away from moisture, excessive sunlight and dust

This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

2.2 Safety Instructions

Caution: There are no operator serviceable parts inside the unit

Warning: Use only the Kramer Electronics input power wall adapter that is provided with the unit

Warning: Disconnect the power and unplug the unit from the wall before installing

2.3 Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country go to our recycling pages at *http://www.kramerelectronics.com/support/recycling/*.

3 Overview

The Kramer **VP-434** is a high-quality component video/UXGA (computer video graphics) to HDMI scaler. It accepts one of two inputs: either component video (Y, Pb, Pr, Y, Cb, Cr and YUV; compatible with both SD and HD component) on RCA connectors or computer video graphics on a 15-pin HD computer graphics video connector (selected via a front panel selector button or via the remote contact closure switch). It scales the video, embeds the audio, and outputs the signal to the HDMI output.

The **VP-434** Component / UXGA HDMI Scaler:

- Is HDTV compatible and the resolution can be scaled up to 480p, 576p, 720p, 1080i or 1080p via a front panel selector button

  Select other resolutions from the OSD menu including: 1080i, 1080p, 576i, 576p, 720p, 1080i, 1080p, WXGA, WSXGA, WUXGA, NATIVE, VGA, SVGA, XGA, SXGA, UXGA, 480i, 480p.
- Has analog audio inputs for the COMP and UXGA sources
- Comes with an On-Screen Display (OSD) for easy setup and adjustment, accessible via the IR remote control and via the front-panel buttons
- Has a non-volatile memory that retains the last settings used
- Is housed in a desktop sized enclosure and is 12VDC fed

Control your **VP-434**:

- Directly, via the front panel push buttons
- Remotely, from the infrared remote control transmitter
- Remotely, from the remote contact closure switch

3.1 Defining the VP-434 Component/UXGA HDMI Scaler

This section defines the **VP-434**.

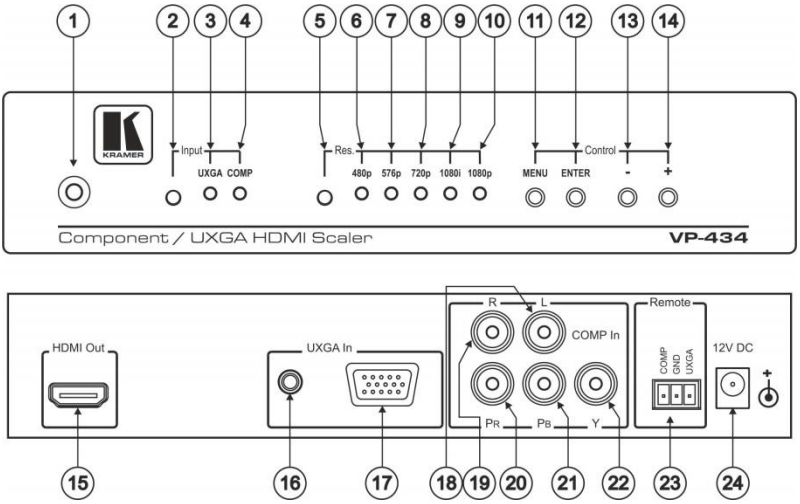

Figure 1: VP-434 Component/UXGA HDMI Scaler

#	Feature		Function
1	*IR* Receiver		Receives signals from the remote control transmitter
2	*INPUT*	Selector Button	Press to select the UXGA input or the COMP input
3		*UXGA* Indicator LED	Lights when the UXGA input is selected
4		*COMP* Indicator LED	Lights when the COMP input is selected
5	*RES.*	Selector Button	Press to select the resolution: 480p, 576p, 720p, 1080i or 1080p
6		*480p* Indicator LED	Lights when the 480p resolution is selected
7		*576p* Indicator LED	Lights when the 576p resolution is selected
8		*720p* Indicator LED	Lights when the 720p resolution is selected
9		*1080i* Indicator LED	Lights when the 1080i resolution is selected
10		*1080p* Indicator LED	Lights when the 1080p resolution is selected
11	*CONTROL*	*MENU* Button	Displays the OSD menu (see Section 5.2)
12		*ENTER* Button	Press to accept changes and change the SETUP parameters
13		- Button	Press to move down the menu list
14		+ Button	Press to move up the menu list values
15	*HDMI Out* Connector		Connects to the HDMI acceptor
16	*UXGA In*	3.5mm Mini Jack Connector	Connects to the analog unbalanced stereo audio signal source
17		UXGA 15-pin HD Connector	Connects to the UXGA source

#	Feature		Function
18	*COMP In*	*L* RCA Connector	Connect to the left and right analog unbalanced stereo audio source (of the COMP source)
19		*R* RCA Connector	
20		P_R RCA Connector	Connects to the component video source For component video, connect all three connectors: Y, Cb, Cr (also known as YUV)
21		P_B RCA Connector	
22		*Y* RCA Connector	
23	*Remote* Contact Closure Pins		Connects to a contact closure switch (see Section 4.1)
24	*12V DC*		+12V DC connector for powering the unit

4 Connecting the VP-434

Always switch off the power to each device before connecting it to your **VP-434**. After connecting your **VP-434**, connect its power and then switch on the power to each device.

To connect the **VP-434** as illustrated in the example in Figure 2:

1. Connect a component video source (for example, a DVD player) to the COMP In Y, Pb, Pr, RCA connectors, and to the COMP In L and R audio RCA connectors.

2. Connect a computer graphics source to the UXGA In 15-pin HD computer graphics video connector, and to the UXGA In audio 3.5mm mini jack connector.

3. Connect the HDMI Out connector to an HDMI acceptor (for example, a plasma display).

4. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity (not shown in Figure 2).

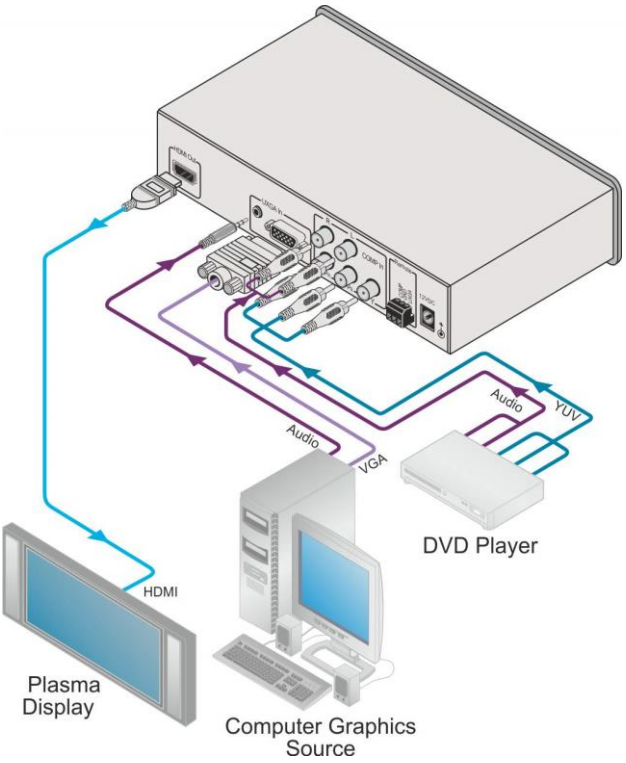

Figure 2: Connecting the VP-434 Component/UXGA HDMI Scaler

4.1 Connecting the Contact Closure Remote Control PINs

The contact closure pins operate in a similar way to the Input selector button. Using the contact closure remote control you can select the COMP or the UXGA input. To do so, temporarily connect the required input (COMP or UXGA) pin on the REMOTE terminal block connector to the GND (ground) pin, as illustrated in Figure 3.

DO NOT connect more than one PIN to the GND PIN at the same time

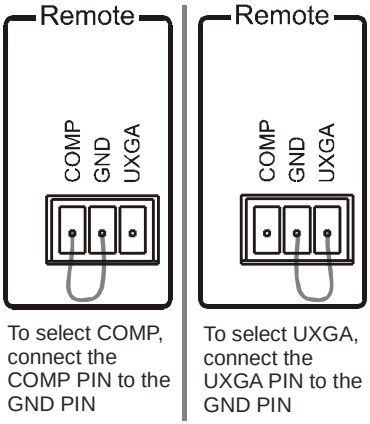

Figure 3: Connecting the Contact Closure Remote Control PINs

5 Operating the VP-434

The **VP-434** can be controlled directly via the front panel buttons (see Section 5.1), via the OSD menu (see Section 5.2), and/or remotely from the infrared remote control transmitter (see Section 5.3).

5.1 Using the Front Panel Buttons

The **VP-434** includes the following front panel buttons:

- An Input selector button for selecting the required input (UXGA or COMP)
- A resolution (Res.) button for selecting the desired resolution
- Control buttons, including the MENU, ENTER, + and – buttons

5.2 Using the CONTROL Buttons

The CONTROL buttons let you control the **VP-434** via the OSD menu. Press the:

- MENU button to enter the menu
  The default timeout is set to 10 seconds
- ENTER button to accept changes and to change the menu settings
- + and – buttons to move through the OSD menu, which is displayed on the video output

On the OSD menu, select EXIT to exit the menu.

5.2.1 The MAIN MENU

The following table defines the MAIN MENU features and functions.

<table>
<tr><th>Mode</th><th colspan="4">Function</th></tr>
<tr><td>CONTRAST</td><td colspan="4">Set the contrast (0 to 100)</td></tr>
<tr><td>BRIGHTNESS</td><td colspan="4">Set the brightness (0 to 100)</td></tr>
<tr><td>FINETUNE</td><td colspan="4">Set the hue, saturation and sharpness (0 to 100)</td></tr>
<tr><td>COLOR</td><td colspan="4">Set the red, green and blue shades (0 to 100)</td></tr>
<tr><td>SIZE</td><td colspan="4">Select the size of the display: full, overscan, underscan, letter box, panscan</td></tr>
<tr><td rowspan="13">OUTPUT</td><td colspan="4">Select the output resolution from the menu:</td></tr>
<tr><td>Appears as:</td><td>Output resolution:</td><td>Appears as:</td><td>Output resolution:</td></tr>
<tr><td>1080I60</td><td>1080i @60Hz</td><td>NATIVE
Select “NATIVE” to select the output resolution from the EDID of the connected HDMI monitor</td><td></td></tr>
<tr><td>1080P60</td><td>1080p @60Hz</td><td>VGA</td><td>640x480</td></tr>
<tr><td>576I</td><td>576i</td><td>SVGA</td><td>800x600</td></tr>
<tr><td>576P</td><td>576p</td><td>XGA</td><td>1024x768</td></tr>
<tr><td>720P50</td><td>720p @50Hz</td><td>SXGA</td><td>1280x1024</td></tr>
<tr><td>1080I50</td><td>1080i @50Hz</td><td>UXGA</td><td>1600x1200</td></tr>
<tr><td>1080P50</td><td>1080p @50Hz</td><td>480I</td><td>480i</td></tr>
<tr><td>WXGA</td><td>1280x720</td><td>480P</td><td>480p</td></tr>
<tr><td>WSXGA</td><td>1680x1050</td><td>720P60</td><td>720p @50Hz</td></tr>
<tr><td>WUXGA</td><td>1920x1200</td><td></td><td></td></tr>
<tr><td>OSD</td><td colspan="4">Set the OSD parameters: H POSITION, V POSITION, TIMER, BACKGROUND (see Section 5.2.2)</td></tr>
<tr><td>FACTORY RESET</td><td colspan="4">Resets to the default parameters (resolution is set to VGA)
If you cannot see the display after factory reset, use the front panel Res. button to set the correct resolution</td></tr>
<tr><td>INFORMATION</td><td colspan="4">Displays the source, the input resolution, the output resolution and the software version</td></tr>
<tr><td>EXIT</td><td colspan="4">Select to exit the menu</td></tr>
</table>

5.2.2 The OSD Menu

The following table defines the OSD menu.

Parameter	Function
H POSITION	Sets the horizontal position of the OSD (from 0 to 100)
V POSITION	Sets the vertical position of the OSD (from 0 to 100)
TIMER	Sets the timeout period in seconds (from 5 to 100). The default timeout is 10 seconds
BACKGROUND	Sets the OSD background between 0 (solid black) and 8 (transparent)

5.3 Using the Infrared Remote Control Transmitter

You can control the **VP-434** from the infrared remote control transmitter, as defined in Figure 4:

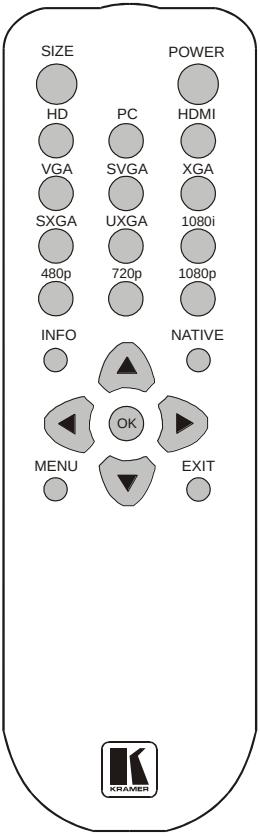

Figure 4: Infrared Remote Control Transmitter

Keys	Function
SIZE	Set the size of the image displayed
POWER	Toggle the power save mode ON or OFF
HD	Select the component video input
PC	Select the UXGA input
HDMI	Not used
VGA	Set the output resolution to VGA
SVGA	Set the output resolution to SVGA
XGA	Set the output resolution to XGA
SXGA	Set the output resolution to SXGA
UXGA	Set the output resolution to UXGA
1080i	Set the output resolution to 1080i
480p	Set the output resolution to 480p
720p	Set the output resolution to 720p
1080p	Set the output resolution to 1080p
INFO	Displays the selected input, the input and output resolutions and the firmware versions on the OSD
NATIVE	Select the output resolution from the EDID of the connected HDMI monitor
	Four navigation keys
OK	Press to accept changes
MENU	Enter the OSD menu
EXIT	EXIT the menu

6 Technical Specifications

INPUTS:	1 UXGA on a 15-pin HD connector 1 component video on 3 RCA connectors 1 analog unbalanced stereo audio on a 3.5mini jack connector (for the UXGA input) 2 analog unbalanced stereo audio (left and right) on RCA connectors, 4dBm nominal
OUTPUT:	1 HDMI connector
OUTPUT COLORSPACE:	RGB
OUTPUT RESOLUTIONS:	1080i, 1080p, 576i, 576p, 720p, 1080i, 1080p, WXGA, WSXGA, WUXGA, NATIVE, VGA, SVGA, XGA, SXGA, UXGA, 480i, 480p
OUTPUT REFRESH RATE:	60Hz for computer graphics resolutions, 50/60Hz for HDTV resolutions
CONTROLS:	Front panel buttons, contact closure and infrared remote for menu driven OSD control
ADDITIONAL CONTROLS:	Contrast, brightness, hue, saturation and sharpness; red, green and blue; Resolution, image size
POWER CONSUMPTION:	12V DC, 800mA
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)
STORAGE TEMPERATURE:	-40° to +70°C (-40° to 158°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	21.5cm x 16.1cm x 4.36cm (8.46” x 6.34” x 1.7”) W, D, H
WEIGHT:	1.1kg (2.43lb) approx.
ACCESSORIES:	Power supply, IR remote control
OPTIONS:	RK-1 Rack adapter
Specifications are subject to change without notice at http://www.kramerelectronics.com	

LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

What is Covered

This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

Without limiting any other exclusion herein, Kramer Electronics does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

How Long Does this Coverage Last

Seven years as of this printing; please check our Web site for the most current and accurate warranty information.

Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.
3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

How to Obtain a Remedy under this Limited Warranty

To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, please visit our web site at www.kramerelectronics.com or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required. You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

Limitation on Liability

THE MAXIMUM LIABILITY OF KRAMER ELECTRONICS UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

Exclusive Remedy

TO THE MAXIMUM EXTENT PERMITTED BY LAW, THIS LIMITED WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF KRAMER ELECTRONICS CANNOT LAWFULLY DISCLAIM OR EXCLUDE IMPLIED WARRANTIES UNDER APPLICABLE LAW, THEN ALL IMPLIED WARRANTIES COVERING THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY TO THIS PRODUCT AS PROVIDED UNDER APPICABLE LAW.

IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A “CONSUMER PRODUCT” UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY AS PROVIDED UNDER APPLICABLE LAW.

Other Conditions

This limited warranty gives you specific legal rights, and you may have other rights which vary from country to country or state to state.

This limited warranty is void if (i) the label bearing the serial number of this product has been removed or defaced, (ii) the product is not distributed by Kramer Electronics or (iii) this product is not purchased from an authorized Kramer Electronics reseller. If you are unsure whether a reseller is an authorized Kramer Electronics reseller, please visit our Web site at www.kramerelectronics.com or contact a Kramer Electronics office from the list at the end of this document.

Your rights under this limited warranty are not diminished if you do not complete and return the product registration form or complete and submit the online product registration form. Kramer Electronics thanks you for purchasing a Kramer Electronics product. We hope it will give you years of satisfaction.

For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

We welcome your questions, comments, and feedback.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com

SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

P/N: 2900-000346 Rev: 7